

REMARKS

The oath / declaration , drawings , specification and claims have been carefully reviewed in the light of the Examiner's action.

New oath / declaration with requested corrections has been signed , dated and is enclosed with this Amendment.

The drawings Fig. 1 and Fig. 7 have been corrected per the Examiner's request. Because the numerals 59 and 60 were erroneously duplicated , Fig. 5 was corrected to reflect corrections of reference numerals 59A and 60A.

The specification was also amended to better reflect the open to air combustion engine , as it was and is shown in Fig. 6. The open to air engine was and is also described on page 23 , lines 8 , 9 and 10. The entire specification was also corrected to eliminate grammatical errors and inconsistencies , per the Examiner's suggestions and request. By the term "highly energized" applicant meant - highly charged , or having high energy stored in -.

No new matter has been added.

Claims 10 - 12 were corrected to eliminate grammatical informalities and to provide antecedent basis into them. Claim 34 has been cancelled in agreement with the Examiner's objections , pertaining to Sun's patent # 5,539,308.

In paragraph 9 , the Examiner objects to claims 10 , 11 and 12 under

35 USC par. 112, due to applicant's definition in these claims as the engine being fueled "only" by hydrogen, while the drawings show hydrogen, oxygen and air inputs into the engine. Applicant believes, that the oxygen and/or the air are not considered in the art to be fuels, only oxydizers to support or enhance the combustion. Oxygen alone or mixed with air will not burn and has no energy stored in it, therefore it is not a fuel. Also the air alone will not burn and has no energy stored in it. ✓

In another objection to claim 11 the Examiner stated that this claim is not supported by the specification, because the claim 11 describes the hydrogen as "not stored under pressure". Page 21, line 14 – 16 describes a hydrogen storage tank, but this is not claimed in claim 11. In claim 11, only the hydrogen generating cell is claimed as described in page 22, lines 9 – 10, where the tank is replaced by the cell generating hydrogen. The cell 105 does not store the hydrogen under pressure, but rather releases it directly into the engine 87 due to the well known in the art and obvious suction or low pressure created by the engine's pistons during cranking or running. Every combustion engine has the suction and exhaust. If the engine is not running, there is no production of hydrogen. ✓

Taking claims in detail, attention will be given to the prior art patents cited by the Examiner.

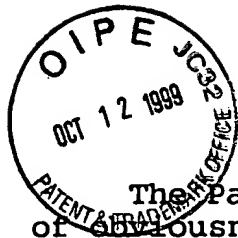
Item 13.

The Examiner rejected the claim 10 based on obviousness of a combination of prior art patents to West, Laumann et al., and Thomson et al..

Applicant agrees with the Examiner that West in U.S. patent #3,517,766 discloses

an electric hybrid vehicle, which is using a polluting gasoline engine with generators and a battery powering an electric motor to propel the vehicle ; and that Laumann in U.S. patent #4,112,875 provides a hydrogen fueled ,closed cycle engine with a generator and solar cells to power a hydrogen / oxygen generating cell ,while the gases are stored under pressure ; and that Thomson in U.S. patent # 3,554,311 provides a two wheeled pure electric vehicle having only a battery and electric motor. However , West does not suggest that his vehicle is fueled by non-polluting hydrogen , Laumann does not suggest an electric hybrid vehicle with a battery for storing energy – but stores the energy in the form of compressed hydrogen instead , and Thomson does not suggest an electric hybrid vehicle fueled by hydrogen. That any vehicle can be made pure electric is well known.

Applicant believes , that the Examiner's combination of references is improper and applicant does not believe , that his invention as claimed in claim 10 is obvious , because nothing in the references cited by the Examiner suggests the system of applicant. Applicant believes that he is the first to teach the novel and unobvious, long range and non-polluting hydrogen – electric hybrid vehicle , and that the Examiner' combination of references does not meet the Applicable Court Standards.



THE APPLICABLE STANDARDS FOR
COMBINING REFERENCES UNDER SECTION 103

The Patent and Trademark Office must prove a prima facie case of obviousness of the claimed invention.

"One of the more difficult aspects of resolving questions of non-obviousness is the necessity 'to guard against slipping into the use of hindsight.'" In re Carroll, 601 F.2d 1184, 1186, 202 USPQ 571, 572 (CCPA 1979) (quoting Graham v. John Deere Co., 383 U.S. 1, 36 [148 USPQ 459,474] (1965)). The Patent and Trademark Office has the burden of showing that the prior art would have taught or suggested the claimed invention to one of ordinary skill in the pertinent art, In re Clinton, 527 F.2d 1226, 1228, 188 USPQ 365, 367 (CCPA 1976).

In re Shaffer, 108 USPQ 326, 229 F.2d 476 (CCPA) \ 1956) is one of many cases in which it is pointed out that for a combination of old elements to be patentable, the elements must cooperate in such manner as to produce a new, unobvious, and unexpected result, citing In re Kaufman, 39 CCPA (Patents) 769, 193 F.2d 331, 92 USPQ 141 and In re Lindberg, 39 CCPA (Patents) 866, 194 F.2d 732, 93 USPQ 23.

The Court in Shaffer said:

"Furthermore, as a general matter, in determining patentability, the concept of a new and useful improvement must be considered along with the actual means of achieving the improvement. In re Delancy, 34 CCPA (Patents) 849, 159 F.2d 737, 72 USPQ 477. In re Bisley, 39 CCPA (Patents) 982, 197 F.2d 355, 94 USPQ 80."

In determining obviousness it is necessary to determine whether the references themselves suggest the desirability of the proposed combination.

In re Bergel and Stock 292 F.2d 955, 956-7, 130 USPQ 206, 208 (CCPA 1961) and In re Grabiak 769 F.2d 729, 732, 226 USPQ 870, 872 (Fed. Cir. 1985).

And in In re Imperato, 286 F.2d 585, 179 USPQ 730 (CCPA 1973) it is stated:

"The mere fact that the disclosures of the prior art can be combined does not make the combination obvious unless the art also contains something to suggest the desirability of the combination. In re Bergel. supra."

See also Interconnect Planning Corporation v. Feil, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985).

Also, in In re Dow Chemical Co., 5 USPQ 2d 1529, (CAFC 1988) the Court said at page 1532:

"The PTO presents, in essence, an 'obvious to experiment' standard for obviousness. However, selective hindsight is no more applicable to the design of experiments than it is to the combination of prior art teachings. There must be a reason or suggestion in the art for selecting the procedure used, other than the knowledge learned from the applicant's disclosure."

Further, in In re Geiger, 2 USPQ 2d 1276 (CAFC 1987) the Court said at p. 1278:

"At best, in view of these disclosures, one skilled in the art

might find it obvious to try various combinations of these known scale and corrosion prevention agents. However, this is not the standard of 35 U.S.C. Sec. 103."

In order to establish a prima facie case of obviousness, the prior art teachings must be sufficient to suggest making the claimed apparatus. Here, there is no evidence of record which would have led one of ordinary skill at the time the invention was made to combine the prior art in the manner the Examiner proposes, to achieve applicants' structure.

There must have been a reason apparent at the time the invention was made to the person of ordinary skill in the art for applying the teaching at hand, in the manner proposed or the use of the teaching as evidence of obviousness will entail prohibited hindsight. In re Nomiya, 509 F.2d 566, 184 USPQ 607, 613 (CCPA 1975).

Obviousness is tested by "what the combined teachings of the references would have suggested to those of ordinary skill in the art." In re Keller, 642 F.2d 413, 415 208 USPQ 871, 881 (CCPA 1981). But it "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984).

See also:

In re Donovan and Ryan, 184 USPQ 414 (CCPA 1975)

In re Regel, Buchel and Plempel, 526 F.2d 1399, 188 USPQ 136 (CCPA 1976)

Ex parte Shepard and Gushue, 188 USPQ 563 (1974)

In re Reinhart 531 F.2d 1048, 189 USPQ 143 (CCPA 1976)

In Ex parte Thompson, 184 USPQ 558, the board, in considering a Section 103 rejection stated that it would not be obvious to substitute an element of a first reference for an element of a second reference, since to do so would destroy the apparatus of the second reference for its intended purpose.

See also:

Ex parte Hartman, 186 USPQ 366 (1974)

In re Meng and Driessen, 492 F.2d 843, 181 USPQ 94 (CCPA 1974) states:

"As we said in In re Shuman, 53 CCPA 1251, 361 F.2d 1008, 1012, 150 USPQ 54, 57 (1966) references must be evaluated by ascertaining the facts fairly disclosed therein as a whole."

The CAFC in a recent case set forth the proper inquiry for evaluating references as:

References must be considered for all that they teach. W.L. Gore & Assoc. v. Garlock, Inc., 721 F.2d 1540, 1550, 220 USPQ 303, 311 (Fed. Cir. 1983) cert. denied, 469 U.S. 851 (1984).

See also In re Fritch, 23 USPQ 2d 1780 (CAFC 1992).

In combining references, the Examiner did not and could not:

1. Find any suggestion of the desirability of the proposed combination;
2. Find any suggestion for combining the references in the references themselves;
3. Find any suggestion in the references taken as a whole of

the structure claimed;

4. Find the actual structure as claimed and employed to achieve a new and unexpected result.

Item 15.

The Examiner rejected claim 11 as being unpatentable over prior art U.S. patents of above mentioned West, Laumann, Thomson and additionally Munday (U.S. 5,143,125).

Applicant defends the claim 11 as discussed for claim 10 in Item 13, and additionally against the patent to Munday on the grounds, that none of them even remotely suggests the combination or system of applicant, as claimed in claim 11, or even that they can be selectively combined. As the Examiner stated, West and Laumann fail to teach the electric supply of the electrolysis device to be both the generator and battery. West does not have the electrolysis device, Laumann does not have the battery, and does not power the electrolysis device by the generator (see Fig. 1). Munday teaches a hydrogen generating system for an engine based on an electrolysis apparatus, but does not provide any information about the source of electricity for the apparatus, and does not suggest a hybrid electric vehicle. Applicant believes that the Examiner's combination of references to reject the claim 11 does not meet the Applicable Court Standards, as described above. In combining references, the Examiner did not and could not:

1. Find any suggestion of desirability of the proposed combination;
2. Find any suggestion for combining the references in the references themselves;
3. Find any suggestion in the references taken as a whole of the structure claimed;

4. Find the actual structure as claimed and employed to achieve a new and unexpected result.

Item 17.

Claim 12 was rejected by the Examiner as being unpatentable over above mentioned West and Laumann. Claim 12 defines two sources of hydrogen for the engine of the electric hybrid vehicle: the hydrogen storage (tank) system and the hydrogen generating cell. West discloses an electric hybrid vehicle with gasoline fueled engine , but does not suggest the hydrogen fuel from any source. Laumann does not suggest a hybrid electric vehicle with batteries , or even a battery in his system. Furthermore , Laumann uses hydrogen storage as the only energy storage , as opposed to applicant's battery. Laumann also uses an electrolysis device in series with the storage tank as opposed to parallel use of both in applicant's system , as shown in Fig. 6 , and Laumann does not power the electrolysis device by the generator. None of the references cited by the Examiner even remotely suggest the combination or system of applicant , as claimed in claim 12. Therefore applicant believes , that his invention is not obvious , since nobody disclosed it or reduced it to practice , as claimed , before the time of the applicant's invention , and that the Examiner's claim rejection does not meet the Applicable Court Standards , as described above.


In combining references , the Examiner did not and could not :

1. Find any suggestion of desirability of the proposed combination;
2. Find any suggestion for combining the references in the references themselves;

3. Find any suggestion in the references taken as a whole of the structures claimed;
4. Find the actual structure as claimed and employed to achieve a new and unexpected result.

Accordingly it is believed that the amendment places the application in condition for allowance and such action is requested and urged.

Respectfully submitted ,


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(Applicant)